Abstract

The sensor arrangement ~~of the invention~~ includes: [[At]] <u>a</u> least two sample chambers; at least two potentiometric FET-sensors, especially ISFET-sensors or ChemFET-sensors, having, in each case, a sensitive surface section, wherein each sensitive surface section lies in flow connection with its one of the sample chambers; and a reference cell having a reference medium for providing a reference potential, wherein the sample chambers are connected with the reference medium via an electrolyte bridge. The reference cell has, preferably, a potentiometric reference-FET-sensor for providing a reference potential, which is registered against the pseudo-reference-potential of a redox electrode. The potentials U_{diff1}, U_{diff2}, ... U_{diffN} of N FET-sensors in the sample chambers are determined against the pseudo-reference-potential, and the measured-variable-relevant, potential differences are determined, in each case, by difference formation between the pertinent potential and the reference potential - thus, in the case of pH, according to the formulas $U_{pH1}...N = U_{diff1}...N - U_{diffref}$.

[[(Fig. 1)]]